Is acupuncture effective in controlling severe, chronic pain?
Can parents reduce their children's risk of developing asthma?
Can Mexico's anti-drug policies impact illegal drug use in the U.S.?

These are the kinds of important questions that Family and Community Medicine researchers have been studying recently. The answers they have found will benefit individuals and families here and around the world.

“Our physicians and researchers have a common goal of improving the health of individuals, and our community at large,” said Judith Gordon, PhD, Family and Community Medicine’s associate head for research.

“We view research and clinical practice as synergistic. They are not separate entities. We work together to gather information on clinical practices, we test hypotheses designed to improve clinical outcomes, and we feed the results of those explorations back into clinical care.”

Family and Community Medicine (FCM) is especially well suited to research, because of its broad scope, said Gordon, a behavioral psychologist widely respected for her development of new approaches to helping smokers quit tobacco.

“We don’t treat just one disease,” Gordon said. “We see whole patients in all their complexity, and we see adults and children and families. We have the perspective of seeing those patients in the wider community as well.”

FCM researchers are known for their ability to attract major research grants from the National Institutes of Health and other funders. In terms of NIH grants received, FCM typically ranks among the top family medicine research programs nationwide.

“We’re a very creative department,” said Myra Muramoto, MD, MPH, vice head of FCM. Like Gordon, Muramoto is a recognized expert on tobacco cessation. The impact of her Project Reach and Helpers programs, which train “concerned others” – from spouses to physicians and other health-care providers – to help smokers quit, continues to grow.

At a meeting a few years back, Muramoto was presenting the results of her early research with Project REACH to the physicians who took part in the study. A chiropractor came to the meeting and said to Muramoto afterward, “You really need to include chiropractors in this program. Our
Acupuncture Can Reduce Need for Addictive Pain Medications

In their study of acupuncture as a treatment for chronic pain, Cheryl Ritenbaugh, PhD, and colleagues set out to answer one question. They were pleasantly surprised to discover answers to two.

With funding from the NIH National Center for Complementary and Alternative Medicine, Ritenbaugh and colleagues set out to measure whether acupuncture can – or cannot – provide significant relief to people who suffer from severe, chronic pain. Many people think it does. But scientific data were needed to validate their observation.

It turns out those patients are right. This study, which documented the experience of 168 patients who suffered from extremely painful temporomandibular joint (TMJ) pain, showed that acupuncture can offer them significant relief.

What Ritenbaugh and her colleagues also found is that acupuncture can decrease patients’ need for narcotic drugs such as Oxycontin, Percocet and Vicodin. While highly effective in controlling pain, these drugs are also known to be highly addictive. This study showed that as patients’ pain decreased, they could also decrease their use of narcotics – particularly during their first eight treatments of acupuncture, which were scheduled close together, but also as they continued to be treated, but less often.

These findings are significant for two reasons. First, acupuncture – an ancient form of traditional Chinese medicine – is becoming increasingly popular in the U.S. In 2007, more than 3 million Americans turned to acupuncture to relieve a wide range of conditions.

And second, addiction to prescription narcotic pain relievers has become a major public health concern in this country.

The U.S. Centers for Disease Control and Prevention warned in 2012 about “a growing, deadly epidemic of prescription painkiller abuse,” responsible for 14,800 deaths in 2008. The CDC also reported that abuse of prescription painkillers was responsible for more than 475,000 emergency department visits in 2009, a number that nearly doubled in just five years.

So how does acupuncture relieve pain? University of Michigan researcher Richard Harris, PhD, a co-investigator on the FCM study, has used PET brain scans to show that acupuncture increases the number of endorphin receptors in the brain. Endorphins are naturally occurring substances continuously released by the brain. They resemble prescription narcotics in their ability to create a sense of happiness and well-being.

“What this means,” Ritenbaugh said, “is that acupuncture may help people lower their need for narcotic pain killers, and reduce addiction to the drugs, especially when it’s combined with other strategies such as meditation and exercise.”

That gave birth to the idea of training acupuncturists, chiropractors and massage therapists to offer helpful information and advice to their clients who smoke and want to quit.

“We had to convince ourselves that people were interested,” Muramoto said. “We went around and talked to people we know in the CAM (complementary and alternative medicine) community. And definitely, the idea was well received.”

In 2010, the project was awarded $3.1 million from the National Cancer Institute.

The smoking-cessation projects have attracted international interest as well. A public health advocate in Kuwait recently emailed Muramoto about his plans to translate the Helpers website into Arabic.

“My observation is that the impulse to help a loved one make healthy behavior changes is universal. It crosses cultures,” Muramoto said. “To be able to support that impulse is one of the most rewarding aspects of the research we do in Family and Community Medicine.”

Save the Date

University of Arizona
Family Medicine Residency Alumni Reunion

Friday, February 28, 2014
to
Saturday March 1, 2014

For more information call: 520-694-1607
Early Daycare May Reduce Risk of Asthma in Children

In 1980, 3 percent of all children in the U.S. suffered from asthma. Today, it’s nearly 10 percent – an alarming trend, perhaps best illustrated by the fact that asthma is now the No. 1 reason children miss school.

“It’s hard,” Rothsers said. “It was definitely scary when she was littler, and we could hear her struggle to breathe.”

Researchers at the UA, and at other universities in the U.S., Europe and elsewhere, have shown that babies who are placed in daycare early in life are more likely to be exposed to viruses and other microbes that make them sick. However, compared with babies who stay home, the daycare babies also are less likely to develop asthma when they are sick, compared with babies who stay home.

Rothers has spent the last six years studying infants’ immune systems to find out how babies in daycare develop an apparent protection from asthma.

One of her most important findings came from surveys of parents who placed their babies in daycare at 2 weeks of age, at 1 month, and at 2, 3, 4, 6 or 9 months, or not at all. Rothsers found that babies who entered daycare in their first three months were the least likely to develop allergies and asthma later on.

“We’re not in a position to recommend daycare as a way to prevent asthma in children,” Rothsers said, “but we can assure parents who worry about their kids getting sick in daycare, that it may have some protective effect as well.”

Rothers’ ongoing research includes another study that found immune system proteins associated with asthma in babies as young as 3 months. These proteins are characteristic of children who develop asthma later on – further evidence that the stage is set for asthma very early in a child’s life.

She plans next to study nasal swabs from babies in daycare and those who are not. “Nasal passages mark the interface between environmental air and the child’s Airways,” Rothsers explained. “This might give us clues about what type of microbes kids are picking up at daycare. I also want to look for differences in nasal microbes with respect to asthma and allergies later in childhood.”

Delta Dental of Arizona Funds Mobile Health Prevention Project

Tooth decay is highly preventable, yet it’s the most common chronic infectious disease of children and adolescents, the U.S. Centers for Disease Control and Prevention reports.

That’s why Family and Community Medicine’s Mobile Health Program has made preventive oral health care a top priority for the children it serves.

And thanks to a $15,000 grant from the Delta Dental of Arizona Foundation, the Mobile Health Program will be able to provide dental fluoride treatments, which help prevent tooth decay, to up to 200 children, from babies to 18-year-olds.

“We are excited to support an oral health prevention project in Tucson that focuses on underserved children,” said Tucson businesswoman Susan Fry, a member of the Delta Dental of Arizona Foundation board. The fact that UA health professions students gain experience by volunteering with the Mobile Health Program “is an added bonus,” Fry said.

Founded in 1976, the Mobile Health Program is a “clinic on the road,” Fry said, “but it’s much more than that. It allows us to bring payment and dental professionals to children who otherwise wouldn’t be able to get care.”

Continued on page 4
The potency of much of the U.S. methamphetamine supply has declined in association with Mexico’s recent policies targeting the drug’s production, according to a new study published in *Drug and Alcohol Dependence*.

“This is a critical development, as less potent forms of a drug often cause less damage,” says the report’s lead author, James Cunningham, PhD, a social epidemiologist with Family and Community Medicine, and an internationally recognized expert on drug policy evaluation.

Until the mid 2000s, illegal methamphetamine was usually produced using ephedrine or pseudoephedrine, the active ingredients in many cold and sinus medicines. These chemicals produce a high potency form of meth called d-methamphetamine. In 2005, Mexico began implementing a series of actions that limited access to ephedrine and pseudoephedrine. This policy forced methamphetamine producers in Mexico, the primary source of the drug consumed in the U.S., to turn to P2P, an alternative chemical that produces a less potent form of meth.

Cunningham used the Freedom of Information Act to obtain a copy of the U.S. Drug Enforcement Administration’s database, which documents thousands of drug seizures, including information on whether methamphetamine seized was likely produced using ephedrine/pseudoephedrine or P2P. With research collaborators in Mexico, Canada, and Taiwan, Cunningham analyzed the data and found profound shifts from ephedrine/pseudoephedrine-based meth to P2P-based meth each time Mexico instituted a major new control.

In a previous study, Cunningham showed that Mexico’s policy was not only associated with reductions in methamphetamine treatment admissions in the United States, but with powerful reductions in admissions in Mexico as well.

However, Cunningham said, “d-meth is still out there, especially in the Southwest, and any type of meth can cause serious health problems and addiction. Mexico’s chemical controls are an important step, but more work is needed to counter the drug and its impact on communities.”

This study is part of a push to use sophisticated, objective research methods to evaluate the impacts of drug policies. “Governments in North America are spending billions to counter the illicit drug supply, but we really don’t know the outcomes,” Cunningham says.

Cunningham and colleagues published the first evaluation of chemical-control policies designed to counter illegal drug use in 2003. It was ground-breaking work that launched a new area of research.

In addition to the study of chemical controls and meth, Cunningham evaluates the health consequences of the drug; for example, he was part of the team which showed that, for humans, methamphetamine was a risk factor for Parkinson’s disease.

In acknowledgement of his work, Cunningham recently was awarded the U.S. Fulbright Canada-Mexico Joint Award in North American Studies. With that, he has studied with colleagues in Canada at the University of Toronto and colleagues at the Universidad de Guadalajara in Mexico. This multi-national work has become the basis for a North American drug-policy research collaborative.

“While it is generally agreed that Canada, Mexico and the United States form a transnational drug system, few U.S. researchers take Canada or Mexico into account when evaluating the local impacts of drugs,” Cunningham says. “Being close to the US-Mexico border, Family and Community Medicine faculty understand transnational issues, and this fosters innovation.”

*Update on Meth: The supply is now less potent*

James Cunningham, PhD

**Delta Dental continued from page 3**

wheels” that provides free or very low-cost care to children and adults in underserved communities.

Mobile Health has been able to provide dental fluoride applications to children up to age 5, thanks to a previous grant from First Things First, the state’s early childhood development program.

“We wanted to be able to treat all kids, not only those covered by the First Things First grant,” said Betty King, a volunteer with the Mobile Health Program, who wrote the grant proposal to Delta Dental of Arizona Foundation.

“Oral health and overall health are interrelated, and we need to start that education at a young age,” said Susan Hadley, MD, the Mobile Health Program’s medical director. “Untreated tooth decay can be painful and lead to serious infection, which then results in kids missing school. So we are very grateful to Delta Dental of Arizona Foundation for helping us provide this preventive care to the children we serve.”

Delta Dental of Arizona Foundation awarded 40 grants this year to programs designed to improve the oral health of Arizona’s children, said Megan Vrooman, the foundation’s program officer.
Sister Jeanne Carrigan Honored

The Community Foundation of Southern Arizona has honored Sister Jeanne Carrigan, PhD, founder of ArtWorks, a program for adults with developmental disabilities, with the foundation’s 2013 Diane Lynn Anderson Memorial Award.

“It was a very huge honor,” Carrigan said after receiving the foundation’s award at the March 29 luncheon of the National Association of Social Workers, Arizona Chapter. “It was fabulous. It was just really lovely.”

Carrigan, who retired in 2011, still volunteers with ArtWorks, which she started in 1989 as a program in the UA art department. ArtWorks became part of the department of Family and Community Medicine in the early 1990s, and is now part of the department’s Sonoran University Center for Excellence in Developmental Disabilities.

ArtWorks enrolls 20 adults ranging in age from 23 to 71. From 8 a.m. to 3 p.m. Mondays through Fridays, they work with paint, clay and other media to express what is on their minds and in their hearts.

Carrigan never hesitates to express her gratitude for the friendship and philanthropy of Mary Paulin, an art teacher who served for many years on the board of the Arizona Commission on the Arts. Paulin and her husband, retired Tucson automotive dealer Bob Paulin, have been exceedingly generous supporters of ArtWorks, giving volunteer hours as well as monetary gifts.

Diane Lynn, who died in 1990, was “a major force” in implementing programs for people with disabilities in Pima County, the Community Foundation stated in its letter to Carrigan. The award recognizes those who display the same qualities Lynn had: respect, compassion, devotion and caring for people with disabilities, the foundation stated.

In her letter nominating Carrigan for the Diane Lynn Memorial Award, Tammie Bassford, MD, head of Family and Community Medicine, wrote: “While many of us are uncomfortable around people with developmental disabilities, Sister Jeanne delights in their honesty and openness.”

Carrigan was characteristically humble. “Many of the sisters in my community, the Sisters of St. Francis, do the same work, so I don’t feel I do anything special,” Carrigan said. “We all do our little bit, and try to make the world a little better, especially for people with developmental disabilities. And I think ArtWorks does that, for sure.”
Family Medicine Resident’s No. 1 Priority: To Stay in Southern Arizona

On July 1, Palitha Kalpage, MD, began his third and final year of training through the UA Family Medicine Residency Program based at University of Arizona Medical Center – South Campus. A native of Sri Lanka, Kalpage decided 12 years ago to come to the U.S. to continue his training and become a licensed physician in this country.

After he earned his medical degree in Sri Lanka, several factors motivated Kalpage to leave his homeland for the United States. Political instability had led to the closure of several of the country’s universities, so the opportunities to continue his medical training were very limited.

His reasons for choosing Tucson were more personal. His wife, Anoma, and son, Yeshan, had already moved to Tucson, where Anoma was admitted to the UA doctoral degree program in chemistry. She is now a research scientist with the UA chemistry department, and an adjunct faculty member at Pima Community College.

Kalpage grabbed as many opportunities as he could to gain experience in medical research and the practice of medicine in the U.S. prior to starting his residency two years ago. He volunteered as a researcher at The University of Arizona Cancer Center, and conducted a research project in cancer biology. He enrolled in, and received a master’s degree from, the UA’s Mel and Enid Zuckerman College of Public Health.

He also began volunteering with Family and Community Medicine’s Mobile Health Program, almost upon his arrival in Tucson. During his time with the Mobile Health Program, Kalpage helped develop its low-cost prenatal care program, which also offers training opportunities for family medicine residents. He also helped develop retinopathy screening programs for patients with diabetes in underserved communities. And he helped develop a collaboration between the Mobile Health Program and the UA-based Arizona Telemedicine Program, which links UA physicians to patients and their doctors in rural communities.

“The Mobile Health Program gave me this great opportunity to work with people of many different backgrounds, many different financial circumstances,” he said. “It was work that I really enjoyed.”

“Palitha has just done a beautiful job with all his work,” said Susan Woodruff, RN, who was director of the Mobile Health Program from 2002 to 2010, and now volunteers with the program. “The patients love him. He’s respected by his peers. He’s just a wonderful doctor.”

It was a loving grandfather who inspired Kalpage to become a doctor.

“When I was in middle school, I was taking care of him, helping him with his bath, shaving his beard, all that stuff,” Kalpage recalled. “He was 90-something old at that time. He said to me, ‘You have good hands. You have that capability to take care of people.’”

After Kalpage completes his family medicine residency in 2014, he wants to stay in Southern Arizona. “That’s my No. 1 priority,” he said.

And he wants to continue volunteering with the Mobile Health Program. “I tell them, whenever they need me, to call me, email me, text me. I will be happy to work with them, whenever I have time.”

Palitha Kalpage, MD, at the mobile health clinic
Henry Walke, MD: Going Global With Family Medicine

Henry Walke, MD, has practiced family medicine in southern Alaska, flying on bush planes to the remote villages of the Yup’ik Eskimos, and developing a taste for roast caribou.

He’s also worked with the U.S. Centers for Disease Control and Prevention in Jordan, investigating disease outbreaks, training field workers and immersing himself in Jordanian culture.

Now Walke is chief of the CDC’s Bacterial Special Pathogens Branch in Atlanta, tracking bacterial troublemakers around the world, responding to disease outbreaks and maintaining preparedness for a bioterrorism attack.

It’s the career he envisioned as a medical student at the University of North Carolina – Chapel Hill, where he received his MD with honors in 1994. From there he headed west to the UA family medicine residency program, which he chose for pretty much the same reasons he's made his other career choices.

“What attracted me to Tucson was the opportunity to interact with patients of different backgrounds, different cultures,” Walke said. “And the residency program had a global health aspect to it, which really appealed to me.”

After finishing his residency in 1997, Walke and his young family headed north to Alaska.

“I wanted to see myself as a practicing clinician, and I wanted to do full-spectrum family medicine, which is hard to find in the lower 48,” he said. “There I did everything from ER to delivering babies. It was a bit extreme, with minus 60-degree temperatures, and eating caribou. It was really exotic and wonderful. I felt I could stay there for 10 years. But I actually was very interested in public health, even in medical school, and I wanted to scratch that itch.”

His next stop was the Johns Hopkins School of Public Health, where he completed a second residency in preventive medicine, earned a master’s degree in public health and worked with the Baltimore City Health Department. “Hopkins has a real focus on international health, so I felt I’d make some good contacts, to work internationally,” Walke said.

“I was looking at everything from Doctors Without Borders to other non-governmental organizations and the CDC. Then, out of the blue, the CDC contacted me and said they had this job in Jordan. Luckily, I was in the right place at the right time and they hired me to be a resident adviser for the field epidemiology training program in Jordan.”

It was 2001 – a time when it was easy to travel around the Middle East, Walke said. “My family and I spent a few weeks in Syria. We went to Aleppo and Damascus and other countries in the region. So yeah, I thought it was a wonderful job, doing some really fascinating, hands-on public health kinds of work. And what really made it beautiful is I wasn’t in an office. I was actually out in the field and just plunging into Jordanian society. It was a real blast.”

Walke returned to the states in 2004, continuing service with the CDC Division of Public Health Systems and Workforce Development, and overseeing 28 programs in 47 countries. In May 2012, he became chief of CDC’s Special Pathogens Branch in the Division of High Consequence Pathogens and Pathology.

His group monitors several pathogens of potentially disastrous consequence, including anthrax, which is found in soil in the western U.S., sometimes infecting bison and other animals. “We also have the global piece,” he said, “trying to help other countries control their own (anthrax) disease by vaccinating their animals, and detecting cases and doing investigations.”

“And we have the bioterrorism piece of that, which is how do we prepare the U.S. for an anthrax attack,” Walke said. “The CDC has a stockpile of meds in case there’s a bioterrorism event. The paranoia is that someone or some group is out there planning a large release of anthrax or other pathogens that would affect a lot of people, and we would not be able to treat all of them.”

It’s the kind of work that feeds Walke’s passion. “I like the global health piece, the fact that we’re helping communities around the world, and the research piece of what we do. And for me, it’s very rewarding to work in a very large agency with a lot of premier scientists. I feel proud to be part of that,” he said.

“And I will always feel indebted to the U of A family medicine residency program – both for the quality of clinical training I received and for the caring and attentiveness the faculty and staff displayed to the needs of a diverse set of patients. I try to model that sensitivity in the public health work I conduct today.”

Henry Walke, MD, MPH
Family and Community Medicine Research Leads to Better Health for All

This newsletter highlights some of the outstanding research that has made Family and Community Medicine a nationally recognized leader in research that leads to better health for individuals, families and communities.

Family and Community Medicine usually ranks in the top 20 of all family medicine research programs nationwide, in terms of outside funding. Our department has received major grants from the National Institutes of Health, the Robert Wood Johnson Foundation and other leading research funders.

But it’s not just about the department. The reason I am proud of our research is that academic family medicine is going to have a special responsibility over the next decade to conduct the kind of studies that will improve the practice of medicine. That in turn will improve the health of our patients and our communities.

University-based family medicine departments like ours have the tools to respond to this national priority. By combining our research skills with our clinical skills, we can take the results of critically important lab research into our clinics. The result is important new knowledge about the best ways to deliver health care – not just locally, but across the country and around the world.

I also want to express my gratitude to the Delta Dental of Arizona Foundation, which has awarded $15,000 to our Mobile Health Program, to expand our efforts to provide preventive dental care for children and adolescents. Dental health is essential to children’s overall health, as well as their school attendance. And both are essential to their bright futures.

As always, if you have questions or comments, I would love to hear from you. You can contact me at bassford@email.arizona.edu, or (520) 626-7864.

Tammie Bassford, MD
Head, Department of Family and Community Medicine